THE IMPACT OF SOCIAL NORMS ON BEHAVIOR: SOLVING THE SPURIOUS CORRELATION DILEMMA

An Undergraduate Research Scholars Thesis

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ABSTRACT

The Impact of Social Norms on Behavior: Solving the Spurious Correlation Dilemma

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In field studies documenting the behavioral impact of social norms, there often exists a "spurious correlation" dilemma with exogenous variables (Manski 1993; Young 2015). At Texas A&M University's Memorial Student Center, a social norm mandates that individuals remove their hats upon entering the building (Bacon 2009). Previous research in this context, focusing on norm maintenance, has documented widespread compliance (Raterman et al. 2014). However, because hat removal upon entering any building is customary in Western culture (Storey 2008), behaviors observed in the MSC may not reflect the MSC's norm. Observations of hat-removal behavior in the MSC, Evans Library and a local supermarket will measure and define the MSC hat-removal norm's impact on behavior, thus testing for correlation. A significant difference between the rates of hat-removal at the MSC and the "control" locations would indicate that the MSC's norm impacts behavior distinctively.

DEDICATION

I would like to dedicate this thesis to my parents, for their undying love and support throughout my undergraduate career. I want to thank you for all that you do, as I never do so enough. I would also like to thank my boyfriend and best friend, Gage, for reading my drafts and always believing in me.

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CHAPTER I

INTRODUCTION

Texas A&M University is a large public university located in College Station, Texas. The Memorial Student Center (MSC), built in 1951, in memoriam of Texas A&M's war-dead, is the centerpiece of university culture (Bacon 2009). In 1953, the MSC council voted to prohibit hat-wearing for all visitors inside the building to pay "respect" to the war-dead (Bacon 2009). Hat removal as a signal of "respect" is a common feature of Western etiquette, originating in the 17th century as a practice among European noblemen for acknowledging social status (Storey 2008: 138). Despite high rates of compliance (Raterman et al. 2014), behavior may be a function of Western etiquette rather than the MSC's norm, demonstrating the effects of a "spurious correlation dilemma" (Manski 1993). In other public buildings, where no building-specific social norm exists, behavior is purely based in Western tradition. To determine the efficacy of the MSC's norm, I will compare hat-removal behaviors in the MSC with those observed in a campus library and a supermarket, where the specific MSC norm is absent.

Ethnographic Context: Texas A&M University and the MSC

Texas A&M University derives much of its organizational identity from the propagation of much-esteemed traditions. Originating from the Morrill Land Grant Act of 1862, the Agricultural and Mechanical College opened in 1876 as a small all-male military school (Paddon 2007). Students, known as "Aggies" were required to become members of the school's Corps of Cadets, and were subject to rigorous military education and discipline (Paddon 2007). Despite having since expanded into a large public university, it has retained, along with the Corps of Cadets, several sociocultural characteristics that are reminiscent of a Civil War-era southern

military school, many of which are manifested as “traditions”(Caulfield 2009). The intense valuation of the legacy of forbearers, the protection of tradition, and the veneration of the war-dead pervade the university’s many closely guarded customs. These traditions vary in size and purpose, and are often thematically oriented towards remembrance of the dead and unwavering loyalty to the school. Large-scale memorial services, known as Muster and Silver Taps, are given for deceased students and alumni (Paddon 2007). Other social norms, such as the routine avoidance of the school’s concrete seal on Military Walk and the hat-removal norm in the university’s esteemed Memorial Student Center, are a few of many traditions that emphasize “respect” for the school and for the fallen.

The proliferation of what is known as the “Aggie Spirit” (Caulfield 2009), the framework of Texas A&M norms and traditions, depends on a faithfulness to the university that is found among its students and alumni. Generations of Texas A&M alumni are known for enculturating their children at an early age of the university’s many traditions (Caulfield 2009). The internalization of the Aggie identity may also begin at Fish Camp, a 3-day retreat for incoming freshmen in an isolated location in East Texas. Known colloquially as an “Aggie’s First Tradition,” the orientation involves repetitive “yell practices,” team-building games and other activities that aim teach new students about the university’s various traditions (Hallett 2005). However, the “Aggie Spirit” is learned, it is often retained for life, as many students and alumni fiercely protect and maintain the customs that comprise the Aggie identity.

One of Texas A&M’s widely observed traditions is the hat removal norm at the Memorial Student Center, a memorial building originally built in 1951 as a symbol of veneration of “those

men of Texas A&M who gave their lives during World Wars I and II" (Bacon 2009). The concept of the Memorial Student Center arose from a tradition of college unions in the United Kingdom and the United States in the 19th century (Bacon 2009). The college union center, in many universities, was designated as a place for intellectual debate and socialization, liberating undergraduates from the rigors of academic life (Bacon 2009). Over time, administrators of Texas A&M University gradually adopted the idea of a student union center (Bacon 2009). The vision was manifested in 1951 as the Memorial Student Center (MSC), a "living memorial" to the fallen members of Texas A&M lost to World War II (Bacon 2009). One of the hallmark traditions of the MSC, enacted by the MSC Council in 1953, is the removal of hats upon entering the building as a signal of respect and commemoration for the university's war-dead (Bacon 2009) . This social norm remains as one of the more well-known and treasured traditions of Texas A&M culture, and is heavily emphasized to new students in lessons taught at Fish Camp. Visitors to the MSC are also reminded via numerous signs instructing visitors to remove their hats; moreover, it has been demonstrated that students occasionally confront those who do not follow the norm and ask them to remove their hats (Raterman et al. 2014).

The MSC's commemorative hat removal norm may have roots in much older European tradition and military etiquette. In 17th century Europe, the removal of caps when approaching nobility or others of a superior social status became a commonplace social norm signaling courtesy and reverence through the disarmament of an often heavy piece of clothing (Storey 2008). Over the centuries, the norm, often specified for "gentlemen" of a certain social prestige, became adapted in a variety of social settings, including when entering buildings and when greeting women and the elderly. Women's hats and headdresses were not subject to this standard

of etiquette, since they were perceived to serve a purely decorative function and were too cumbersome to remove (Storey 2008). Moreover, in Western militaries, hat etiquette, often termed as "cover and uncover," is an important aspect of custom for the enlisted and veterans (Schading et al. 2006). Hats, or "covers," must always be removed indoors or in the presence of a high-ranking officers (Schading et al. 2006). The "cover and uncover" custom remains prevalent in Texas A&M's Corps of Cadets, who adhere to a policy of "uncovering" when entering all buildings.

As hat-removal etiquette persists today in much of the Western world, hat removal remains a cultural mandate for most men, particularly in memorials, centers of worship, and other sacrosanct places requiring the reverence of the dead and holy (Storey 2008). In the American South, many European norms of chivalry, honor, and the devotion to predecessors continue to exist (Paddon 2007). The removal of a hat when entering a building remains as an artifact of these old norms, and is considered by many Southerners to be an important part of etiquette.

At Texas A&M University, a body of social norms, or "traditions" account for much of the university's identity. This fiercely protected "Aggie Spirit" is embodied and propagated by students and former students of the university. How do these norms, if they are so rigorously protected, impact behavior? For the purposes of this study, the MSC's hat removal norm will be examined. It is necessary to survey interdisciplinary literature to accurately define and describe the phenomena of normative behavior.

The Literature of Social Norms

Human sociality, unlike other organisms, is marked by extensive cooperation between unrelated individuals (Bowles et al. 2004). Much of the framework of human cooperation is maintained by social norms, or shared notions of acceptable and unacceptable behavior (Boyd et al. 2001). These "rules" are thought to be managed within human social groups by punishment of inappropriate behavior and reward of appropriate behavior (Fehr et al. 2002), which allow them to be self-reinforcing (Young 2003) . Social norms include things like manners of dress, voting habits, marriage practices, property rights and, as examined in this study, practices of hat-removal as veneration of the dead. Because of their pervasiveness, we often do not recognize how extensively they comprise the fabric of our social interactions.

A substantial, interdisciplinary body of literature attempts to define the phenomena of social norms. Social norms are a common topic of inquiry among anthropologists, sociologists, social psychologists and economists alike (Coleman 1994; Boyd et al. 1994; Young 2003; Sherif 1936). These fields correspondingly yield diverse perspectives on how social norms should be defined and how they operate to shape human behavior.

In social psychology, social norms are defined as positive or negative shared attitudes towards a feeling, thought or an action performed by a person (Friedkin 2001). An important distinction in social psychology and other disciplines is that between a descriptive norm, or what is perceived to be a common behavior, and an injunctive norm, or what is commonly approved or disapproved by others (Cialdini et al. 1991). Psychologists maintain that people are conformist, often citing frequent social comparison and interpersonal agreement as important influences in

the maintenance of norms. The classical works of Sherif (1936) and Festinger (1950, 1954) posited that humans are "information integrators"; when faced with uncertain or ambiguous phenomena, individuals weigh and incorporate the attitudes of others into those of their own to ease their uncertainty. It is thought that this tendency to "socially compare" contributes to the formation of interpersonally sustained attitudes, or social norms, that are imparted with a sense of validity and correctness (Friedkin 2001).

Economists such as Young (2003) define social norms as rules of behavior that function to determine which behaviors are acceptable and unacceptable. As noted by Young (2003) and Lewis (1969), social norms are thought to be sustained by their self-reinforcing character; an action of an individual creates a precedent, which in turn create expectations that influence a repetition of the action. However, in order be considered as a norm , a widespread behavior must be customary and widely understood to be customary; otherwise, the behavior cannot be self-reinforcing (Lewis 1969). Although most economists regard social norms to be less important than simple economic decisions in governing human behavior, they note that norms may increase the efficiency of economic transactions and aid in solving complex coordination problems (Sugden 2005; Young 2003).

In contrast to economics, the field of anthropology regards human behavior to be primarily influenced by social norms and other structural social phenomena and less by individual agency. As in other fields, anthropologists define norms as shared ideas of appropriate and inappropriate behavior (Boyd et al. 2001; Lévi-Strauss 1963). The anthropological study of norms has historically been heavily influenced by evolutionary derivatives of functionalism,

where social norms are thought to produce adaptive or fitness-enhancing behavior (Boyd and Richerson 2001). A notable work by Katz and colleagues (1974) demonstrates that in many New World cultures, a social norm promoting alkali processing of corn increases its nutritional qualities, preventing protein deficiency in areas that rely heavily on a low-protein, corn-based diet (Katz et al. 1974). Remarkably, people in these cultures follow the norm without understanding its nutritional function (Katz et al. 1974). In refutation to pervasive functionalist thinking in anthropology and other social sciences, Boyd and Richerson (2001) demonstrate through a game-theoretic method that social norms do not need to be adaptive but often are. Although functionalism has been heavily criticized (Boyd et al. 2001), it continues to influence the anthropological study of social norms.

It is evident that social norms are well-defined in interdisciplinary literature. Although the perspectives on how and why norms function to influence human behavior vary substantially between disciplines, the definition of a social norm remains relatively constant. For the purposes of this study, I will define a social norm as a shared idea of appropriate or inappropriate behavior.

The Impact of Social Norms on Behavior

Humans, as social organisms, constantly evaluate and integrate information from the surrounding social environment to make decisions about how to behave (Sherif 1936). Numerous studies in the field and laboratory have attempted to measure efficacy of social norms for directing behavior. A history of laboratory experiments in social psychology and behavioral economics have been successful in demonstrating the marked influence of norms on behavior.

However, studies and interventions applied in a field setting have received mixed results in reproducing the significant behavioral impact of norms found in laboratory experiments. Although there is a vast wealth of studies evaluating the behavioral impacts of norms, the following reviews only a few notable results in a variety of laboratory and field-based works.

A laboratory-based experimental game conducted by Krupka et al. (2007) demonstrated the direct effects on behavior produced by pro-social norms. When given a choice between behaving pro-socially (in accordance with an established pro-social norm) or selfishly, participants were more likely to engage in pro-social behavior after their attention was drawn to the pro-social norm or after observing the normative behavior in action (Krupka et al. 2007). These results indicated that even simple exposure to a norm, through behavioral observation or by intensive focusing, impacted participant behavior measurably. As strategic incentives were absent from the experiment as a control for exogenous variables, it was concluded that the pro-social norm directly affected behavior (Krupka et al. 2007).

A study of the impact of social norms landlord-tenant negotiations in Illinois agriculture, conducted by Young and Burke (2001), also illuminated the powerful effects of norms on human behavior. Every year, landlord and tenant farmers negotiate a contract that determines the share of land that the tenant receives to farm. The share offered by the contract is influenced by several factors, particularly the quality of soil; thus, it was predicted that farms with lower quality soils would grant higher shares to tenants, and that share sizes would differ along a continuous spectrum, in correspondence to soil quality. However, Young and Burke (2001) demonstrated that contracted shares do not vary along a spectrum geographically and instead around simple

fractions, primarily 1/2 in northern Illinois and 1/3-2/3 in the south. Instead of aligning share amounts with soil quality, landlords sought to create contracts that were associated with local normative expectations of fairness and simplicity; such results represented the marked influence of norms on behavior, irrespective of the predictions of economic theory (Young et al. 2001).

As it has been demonstrated that social norms yield notable effects on human behavior, a "social norms approach" has been developed for practical application (Berkowitz 2005). The approach involves establishing a social norm or correcting a widespread misunderstanding of a norm to promote healthier behaviors (Berkowitz 2005). For instance, rampant alcohol misuse in universities has been attributed to students' believing that excessive drinking is more widely practiced by their peers than it is in reality. Through the implementation of "social norm" campaigns that represent the healthier drinking habits of students, levels of college drinking have significantly decreased (Berkowitz 2005). Although this methodology has been relatively successful in some campaigns, it has also produced undesired effects in others, sometimes increasing the prevalence of the harmful behavior in question (Schultz et al. 2007). This "boomerang" effect may be the result of the interference of multiple exogenous variables, a common problem found in field studies that will be discussed in the next section.

The Spurious Correlation Dilemma

The results of laboratory tests have established the measurable impact of social norms on behavior (Krupka et al. 2007; Falk et al. 2013). However, in a field context, the efficacy of norms is ill-defined, due to a "spurious correlation" problem with multiple social effects (Young 2014; Manski 1993). Many definitions of social norms posit that individuals behave in

accordance with average group behavior, due to shared notions of appropriateness (Boyd and Richerson 2001; Coleman 1993; Young 2003). However, in field studies examining the impact of norms, it is often unclear whether similar behavior is influenced by social norms, or by spuriously correlated influences that also induce parallel behavior (Manski 1993). When supposedly normative behavior is the result of extraneous social effects, the “spurious correlation” problem exists. One example of this dilemma often highlighted in the literature of economics and sociology is the relationship between peer influences and child achievement in public schools (Manski 1993). Similar academic performance between all students of a school may indicate that students look to peer norms for standards of academic achievement, and perform in school accordingly. However, similar academic performance may also be related to similar socioeconomic composition of the school, or even similar family histories (Manski 1993). In these instances, a spurious correlation problem exists (Manski 1993).

Manski (1993) establishes three hypothesized social effects that seek to explain how an individual behavior may be similar to average group behavior. An endogenous social effect is referred to as one which an individual's behavior "varies with the prevalence of that behavior in some reference group containing the individual" (Manski 1993). These effects are thought of as spheres of impactful social influence, and may be referred to as "epidemics," "imitation," "peer influences" or "social norms” (Manski 1993, 2000). Additionally, similarities in behavior may be explained by exogenous social effects, where individual behavior varies in accordance with the reference group's contextual characteristics, such as socioeconomic status (Manski 1993). Lastly, there exists correlated effects, where behavior is simply associated with similar individual characteristics or backgrounds between individuals and their reference group (Manski 1993). It

should be noted that endogenous and exogenous effects are phenomena arising from social interaction, while correlated effects are described as "non-social" (Manski 2000).

In the context of Texas A&M University's Memorial Student Center, hat-removal behavior may be the result of any of these social effects. For instance, individuals entering the MSC may remove their hat in accordance with the MSC's hat-removal norm, thereby demonstrating an endogenous social effect. In this scenario, the individual references the immediate social environment in order to behave in accordance to what is perceived as appropriate, otherwise known as a social norm (Boyd et al. 2001). The social environment, which includes the signage reminding visitors of the norm and other visitors who may punish non-compliers, operates as a sphere of social influence.

In the instance of an exogenous social effect, individuals remove their hats in concurrence with the hat-removal standard of Western etiquette, which mandates that persons entering a "sacred" place, such as memorial or a place of worship, remove their hats (Storey 2008). This standard may also be referred to as a social norm; however, it is distinct from the MSC's hat-removal norm and arises from Western identity, a contextual characteristic of Texas A&M. Another spurious correlation effect occurs when Corps members remove their hats when entering the MSC and other buildings; although it may appear that they rigorously adhere to the MSC norm and standards of Western etiquette, they "uncover" because they are required to by the rules and regulations of the Corps of Cadets. Lastly, in the instance of a correlated effect, the tendency of MSC visitors to remove their hats occurs simply because visitors have similar institutional backgrounds, such as that of Texas A&M University. In other words, it may be that

members of Texas A&M simply have the propensity to remove their hats when entering buildings and that hat-removal behavior is spuriously correlated with this predisposition. For obvious reasons, this effect is likely insignificant in the context of this study.

In consideration of these multiple social effects, it is of interest to ask one question: does the MSC's hat-removal norm impact behavior in measurable ways? A previous study has demonstrated that there are high rates of hat-removal of the MSC (Raterman et al. 2014); however, it is unclear if the prevalent hat-removal behavior, which is often attributed to the MSC hat-removal norm, is spuriously correlated with Western etiquette. If hat-removal behavior observed in the MSC is a function of the MSC's norm, then it would be expected that hat-removal behavior is significantly more prevalent at the MSC than at locations where only exogenous or other spurious variables are present. However, if hat-removal behavior is not significantly different between the three locations, then it can be inferred that hat removal behavior at the MSC is not a function of the specified MSC norm.

To solve this dilemma, rates of hat-removal in the MSC were compared with proportions obtained at Evans Library, an on-campus library, and HEB, a local supermarket. At Evans Library, where the MSC's norm is absent, standards of Western etiquette may influence visitors to remove their hats. Additionally, as visitors to Evans Library are overwhelmingly Texas A&M students, it may be that hat-removal behavior occurs from similar institutional backgrounds. At HEB, Western etiquette is likely the only social influence responsible for any observance of hat-removal. A comparison of proportions of hat-removal between the MSC and two locations

without the norm controlled for hat-removal based in Western etiquette, an exogenous effect, and isolated the impact of the MSC's norm.

CHAPTER II

METHODS

Previous Research

It should be noted that the methodology used for this project has been built from nearly three years of ethnographic research in the context of the Memorial Student Center. Hat removal in the Memorial Student Center has been a previous topic of anthropological research, which focused on the role of punishment in the maintenance of social norms (Raterman et al. 2014). The methods employed so far include a variety of ethnographic methods, including observation of hat-removal behavior in the MSC. After observation of a total of 588 individuals entering the MSC in 2014, it was found that 88% of individuals removed their hats (Raterman et al. 2014). After this initial study, it became necessary to gather qualitative, first-hand information regarding how students learned, understood and practiced the hat-removal norm. A survey was distributed to first-year students in introductory anthropology classes, asking students to describe how and why they complied with the hat-removal norm. Most students reported always removing their hat when entering the MSC, often citing a need to revere the war-dead of Texas A&M (Daiy et al. 2015). The documentation of such a high rate of compliance and the survey responses led to a new research question: how can the efficacy of the hat removal norm be evaluated quantitatively? To answer this question, I have utilized cross-sectional observation of hat-removal behavior in the MSC, Evans Library and a local supermarket.

Observations

Observations were conducted as one-hour "sessions" weekly over the course of January and February 2017 at the MSC, Evans Library and a local supermarket. Additionally, MSC data

from a graduate-level ethnographic methods class was used, with the permission of the instructor. At the MSC, the data collector chose one out of five main entrances to observe at for each observational session, while at Evans Library, only one main entrance was observed. Evans Library was chosen as a location because the traffic it receives is likely representative of the average campus pedestrian, and is a busy location for students at most times of the day. HEB in College Station was chosen as the local supermarket due to its convenient proximity to campus; here, two main entrances were observed. The days and times of observational sessions were chosen at random by the data collector to prevent sampling error; for instance, at HEB, observations were conducted as early as 8:00 AM and as late as 10:00 PM. At all locations, the observer sat near the entrance and recorded data on their cellular device or tablet, using a tally-counter application (Pixel Research Labs 2015). The tally application was used to improve the efficiency of data collection, as some entrances received heavy traffic that was difficult to track on paper.

Individuals entering each location were categorized by sex, whether they were wearing a hat while entering the building, and if they removed it. For instance, both men and women were categorized as "no hat," "cover" or "uncover." During sessions at on-campus locations (MSC and Evans Library), it was also noted whether the entering individual belonged to the Corps of Cadets, who are distinguishable by uniform. As Corps members are required to remove their hats when entering all buildings, they were removed from statistical analyses. The count of each category was totaled at the end of each session. Data was uploaded to Microsoft Access and subsequently analyzed using R (R Core Development Team 2016).

Statistical Analysis

The proportions of hat removal were compared between each location through a chi-square test of independence. For each location, three different proportions were calculated: the proportion of individuals who were not wearing hats upon entering, the proportion of individuals who wore a hat and remained "covered," and the proportion of individuals who wore a hat and subsequently removed it upon entering the building. Subsequently, for each location, the proportions of individuals who "remained covered" and "uncovered" were calculated out of the total count of individuals who wore a hat. Each "uncover" and "remain covered" proportion was compared with those of the other locations via chi-square analyses. In addition, proportions were compared between all three locations at once using a three-way chi-square test of independence. To prevent an overestimation of hat-removal proportions, the behavior exhibited by Corps members in uniform at both on-campus locations were removed from the all analyses.

CHAPTER III

RESULTS

A total of 10,862 individuals were observed entering all three locations (Table 1). Due to supplementation of data from the graduate ethnographic methods class, more individuals were observed at the MSC than at the other locations (Table 1). Those observed in Corps of Cadets uniform were removed from analysis. As Corps members only wear their uniforms on-campus, these individuals were only seen at Evans Library and the MSC.

A chi-squared test of independence was conducted between proportions of hat removal (among hat-wearing individuals) in the MSC, Evans Library and HEB, as well as between the MSC and Evans Library (Table 2). Subjects were nearly 45 times more likely to remove their hats in the MSC than in Evans Library; moreover, no subjects removed their hats in HEB (Figure 1). These differences were statistically significant between all three locations, $X^2(2, n = 1044) = 768.01, p < .05$) (Table 2). Additionally, there were extremely significant differences in hat-removal behavior between the MSC and Evans Library, $X^2(1, n = 876) = 648.8, p < .05$, and the MSC and HEB, $X^2(1, n = 855) = 584.4, p < .05$ (Table 2). No significant difference was observed between Evans Library and HEB, $X^2(1, n = 357) = 1.122, p > 0.05$. Thus, we can reject the null hypothesis that location and hat-removal are independent; hat-wearers entering the MSC are more likely to remove their hats than those entering Evans Library or HEB. There is a relationship between hat removal and location, with more individuals uncovering at the MSC.

Table 1. Hat-Wearing Behavior per Location, Controlling for Corps of Cadets							
	No Hat		With Hat, Remain Covered		With Hat, Uncover		Total Individuals Observed
	N	**%**	N	%	N	%	
MSC	6697	90.7%	71	1.0%	616	8.3%	7734
Evans Library	1378	87.9%	186	11.9%	3	0.2%	1567
HEB	1393	89.2%	168	10.8%	0	0%	1561
Total	9468		425		619		10862

Table 2. Chi-Square Analyses: Proportions of Hat-Removal Behavior per Location (α=0.05)			
	p-value	X^2	Critical X^2
MSC and Evans Library	< 0.0001	648.8	3.841
MSC and HEB	< 0.0001	584.4	3.841
Evans Library and HEB	0.2896	1.122	3.841
MSC, Evans Library and HEB	<0.0001	768.01	5.991

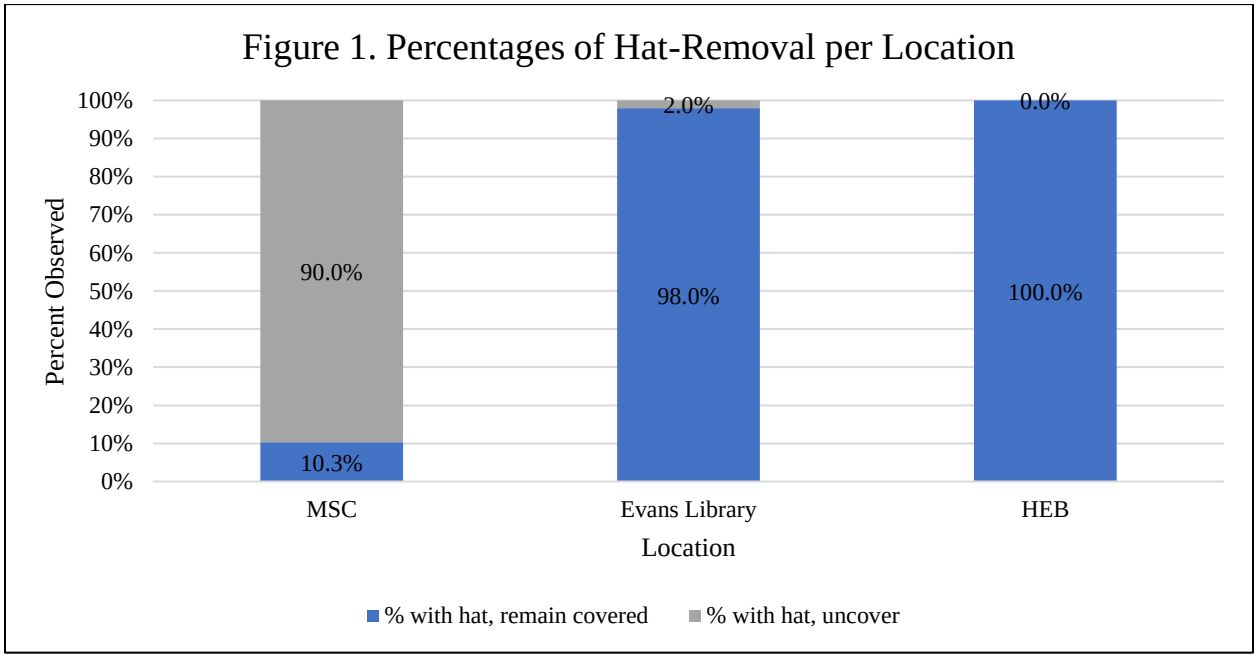

Figure 1. Percentages of Hat-Removal per Location: Differences in hat-removal behavior out of hat-wearing individuals between the MSC, Evans Library and HEB.

CHAPTER IV
DISCUSSION

In terms of the spurious correlation dilemma proposed by Manski (1993), the results of this study indicate that the MSC's norm, an endogenous social effect, is responsible for the similar and vastly coordinated behavior at Texas A&M's Memorial Student Center. Endogenous social effects are defined by social "spheres of impactful influence," by which members of a group reference to determine the appropriate behavior (Manski 1993). The influence of the MSC's highly specific norm is evident; for instance, there was a significant difference between locations, with more individuals removing at the MSC than at Evans Library and HEB (Table 2; Figure 1). In addition, there was no significant difference in hat-removal behavior between Evans Library and HEB; thus, it is reasonable to assume that the social effects present at each location are sufficiently similar. Exogenous effects arising from a group's contextual characteristics, such as that of Western etiquette, appear to have little effect or influence on the behavior of entering individuals in the MSC (Figure 1). The impact of the Memorial Center's norm has been thoroughly defined with a simple study design. Now, it is of interest to ask: Why might this norm impact behavior distinctively? This answer may be found in qualitative ethnographic data.

The Sphere of Influence

It has been demonstrated that an endogenous effect, a highly specific and esteemed social norm, influences approximately 90% of individuals to remove their hats while entering the MSC (Figure 1). The source of impactful social influence, necessary for an endogenous effect (Manski 1993), likely arises with the distinct group identity found at Texas A&M. In 2015, we distributed

a survey to 105 Texas A&M freshmen, asking them to detail their experiences and opinions regarding the university's traditions (Daiy et al. 2016). A majority reported learning of the hat-removal norm and other distinctive Texas A&M traditions at Fish Camp, a three-day freshman retreat, from peers upon entering the university, or from family members (Daiy et al. 2016). In addition, a majority of students not only reported obeying the norm at all times, but also regarding the norm in high esteem, often referring to the necessity of "respect for the Aggie war-dead" (Daiy et al. 2015). Evidently, students, who constitute the majority of MSC visitors, regard the hat-removal norm as meaningful, and wholeheartedly believe in its founding principle. One response from an anonymous student adequately demonstrates this phenomenon:

"Our MSC is a living memorial for those who have served our country. This rule is in place to honor those who have gotten us the freedom that we use every single day."

- *Anonymous*

The results of the 2015 survey, as well as the data collected for this study, are indicative of the effect of an injunctive, moral norm. Injunctive norms describe what "ought" to be done in a given situation (Cialdini et al. 1991). Individuals appear to be heavily influenced by not only their peers, but by the "morality" lessons that they have learned prior or upon admittance to the university. Although the concept of a "university tradition" is not unique to Texas A&M, the university is well-known for its host of unique traditions and norms and for the reverence its students have for the school (Bacon 2009). Thus, the construction of the hat norm at the Memorial Student Center, with its moralistic charter, contributes the formation of a "sphere" of impactful social influence that creates high proportions of compliance.

Moreover, although punishment of non-compliance is rare in the MSC (Raterman et al. 2014), 84% of survey respondents described enforcement of the norm as important, indicating that they expect others to do so (Daiy et al. 2015). The role of punishment in norm maintenance is not well-defined in a field context, yet enforcement often creates cooperation in a lab (Fehr and Gachter 2002); thus, it may be that individuals do not only believe in the charter of the norm, but are wary of the opinions of their peers and fear being punished. This may be an additional, minor contribution to the 90% compliance found during this study (Figure 1). The results of the survey demonstrate that there is a "sphere of influence" necessary for impactful endogenous effects (Manski 1993), such as that of the MSC hat norm.

Why is Western social etiquette less impactful than the MSC's norm on hat-removal behavior? Although it is considered to be an exogenous effect in the context of this study, Western standard of hat-removal is also a social norm; individuals, particularly men, are expected to remove their hats when entering a building (Storey 2008). The norm is well understood in the American South, and appears to be an important component of social etiquette. While obtaining permission to conduct observations at the local supermarket, one contact informed me of his opinion on the matter:

"... it is a shame that people don't take off their hats at this store… you know, like how they would at my church? They always take their hats off in the church."

- *Anonymous*

However, no observed individuals removed their hats while entering HEB and only three people uncovered at Evans Library (Table 1; Figure 1). This is likely due to the locations' lack of reverential significance and the absence of a "sphere of influence." In the 2015 survey, respondents often compared the MSC's norm to standards expected at a church or other place of worship (Daiy et al. 2015). There is not a moral principle associated with hat removal at non-sacred locations; thus, although people might expect hat-removal, and it is documented in Western etiquette manuals (Storey 2008), individuals remain unmotivated to do so. In contrast, norms of behavior that are morally charged, such as the MSC's norm, impact behavior in more distinguishable ways. Students are not only very familiar with the norm (Daiy et al. 2015), but signage is present at the entrances, reminding visitors to honor the Aggie war-dead. It has been shown that bringing a norm to a person's attention greatly increases compliance (Cialdini et al. 1991); signs act as a cue for hat-removal. Cues for "normative focus" (Cialdini et al. 1991) and the distinct and self-reinforcing group identity among Texas A&M students influences individuals to uncover in high proportions (Figure 1).

For Future Research

The simplicity of the study's topic and methodology demonstrate a straightforward ethnographic approach to the study of normative behavior in a field setting. The study also presents a methodology for solving the spurious correlation dilemma (for others, see MacCoun et al. 2007). In addition, the results contribute adequate data on the impact of the MSC norm for ongoing research on the role of punishment in norm compliance (Raterman et al. 2014). In the broad, interdisciplinary study of social norms, it may also be of interest to define a relationship between moral justification and norm compliance. Although other correlated social effects may

have been present at each location, such as the spurious association of "like-minded individuals" (MacCoun et al. 2007), events, and seasons, the sum of these effects are likely insignificant. The most prominent and obvious exogenous effects, Western etiquette and hat-removal among Corps members, was adequately controlled. One modification to the study would be to compare hat-removal at the MSC with that observed at a place of worship, where Western social etiquette is better represented.

CHAPTER V

CONCLUSION

Manski's (1993) "spurious correlation" problem posits that endogenous and exogenous social effects are often entangled in field studies on human sociality. At Texas A&M University's Memorial Student Center, a social norm requires that individuals remove their hats as they enter the building. However, it may be that individuals remove their hats in accordance with Western social etiquette. To isolate the impact of the MSC's norm and solve the "spurious correlation" dilemma, hat-removal behavior was compared between three locations: the MSC, Evans Library and a local supermarket. A statistically significant difference was found between proportions of "uncovering" at the MSC and the two control locations, thus solving the reflection problem and measuring the impact of the MSC's norm. In conclusion, our straightforward methodology reveals that not only can the efficacy of a social norm be measured quantitatively, but that a standard of behavioral appropriateness, when established thoroughly through moral narratives and spheres of influence, can have a notable impact on even the simplest of human behaviors.

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APPENDIX

Table 3. Chi-Square Test: Proportions of Hat-Removal Behavior at the MSC and Evans Library (α=0.05)			
	Remain Covered	Uncover	Total
MSC	71	616	687
Evans Library	186	3	189
Total	257	619	876

Table 4. Chi-Square Test: Proportions of Hat-Removal Behavior at the MSC and HEB (α=0.05)			
	Remain Covered	Uncover	Total
MSC	71	616	687
HEB	168	0	168
Total	239	616	855

Table 5. Chi-Square Test: Proportions of Hat-Removal Behavior at Evans Library and HEB (α=0.05)			
	Remain Covered	Uncover	Total
Evans Library	186	3	189
HEB	168	0	168
Total	354	3	357